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09/998,826	12/03/2001	Young-Bin Im	P56640	7185

7590 07/18/2003  
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EXAMINER

COLON, GERMAN

ART UNIT PAPER NUMBER

2879

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/998,826

Applicant(s)

IM ET AL.

Examiner

German Colón

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-20 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Response to Amendment*

1. The Amendment, filed on April 28, 2003, has been entered and acknowledged by the Examiner.
2. Addition of claims 11-20 has been entered.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 5, 6-8, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohmae et al. (US 6,577,047).

Regarding claim 1, Ohmae discloses a tension mask assembly for a flat CRT comprising:

a tension mask **13** comprising a plurality of strips separated from one another by a predetermined gap, real bridges **21** connecting adjacent strips to define slots **20**, and first and second dummy bridges **28a**, **28b** (see Figs. 5A-5D) extending from adjacent strips toward each slot therebetween, said tension mask being installed to include a top surface of said tension mask facing a panel **2** forming a screen and being separated from said panel by a predetermined gap;  
a plurality of support members disposed at opposite sides of said tension mask; and

a plurality of rigid members secured to opposite ends of said supporting members (see Col. 4, lines 40-50), a first etching boundary **32a** being formed at an end of said first dummy bridge **28a** near to the center of the tension mask being lower with respect to the screen than a second etching boundary **33a** formed at an end of said second dummy bridge **28b** near to the periphery of said tension mask (see Fig. 5C).

Regarding claim 2, Ohmae discloses the vertical center axis of an etched area (**32a**, **33a**) at the upper end surfaces of said first and second dummy bridges being offset from the vertical center axis of an etched area (**32b**, **33b**) at the lower end surfaces of said first and second dummy bridges toward the center of said tension mask to accommodate a deflected electron beam being blocked (see Figs. 5C and 5D, and Col. 9, lines 28-32 and 44-48).

Regarding claim 3, Ohmae discloses the amount of offset increasing from the center of said tension mask toward the periphery of said tension mask (see Col. 10, lines 23-30).

Referring to claim 5, Ohmae discloses an etched area at an upper end surface above the first etching boundary of said first dummy bridge being wider than an etched area at a lower surface therebelow, and an etched area **33b** at a lower surface below the second etching boundary of said second dummy bridge being wider than an etch area **33a** at an upper surface thereabove (see Fig. 5C).

Referring to claims 6-8 and 10, claims 6, 7, 8 and 10 are rejected over the reasons stated in the rejection of claims 1, 2, 3 and 5, respectively.

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmae et al. (US 6,577,047) in view of Shinoda (US 6,433,468).

Regarding claim 4, Ohmae discloses the claimed invention except for the limitation of “an etched area at the upper end surfaces of said first and second dummy bridges being wider than an etched area at the lower end surfaces of said first and second bridges”.

However, in the same field of endeavor, Shinoda discloses a shadow mask comprising a plurality of slits having an upper etched area end surface being wider than an etched area at a lower end surface with the purpose of suppressing the degradation of color purity caused by reflected electrons from an inner surface of a panel being further reflected by the upper area of the mask toward another phosphor different from a desired one (see Col. 2, lines 62-67, Col. 3, lines 1-3, and Col. 5, lines 19-30). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an etched area at the upper end surfaces of said first and second dummy bridges being wider than an etched area at the lower end surfaces of said first and second bridges in order to suppress the degradation of color purity caused by reflected electrons from an inner surface of a panel being further reflected by the upper area of the mask toward another phosphor different from a desired one.

The Examiner notes that Shinoda is silent regarding the mask having dummy bridges; however, the teachings of “providing an upper etched area end surface being wider than an etched area at a lower end surface” to suppress the degradation of color purity caused by reflected electrons from an inner surface of a panel being further reflected by the upper area of the mask toward another phosphor different from a desired one, apply to those portions of a mask that allow transmission of electron beam such as slots and dummy bridges gaps.

Referring to claim 9, claim 9 is rejected over the reasons stated in the rejection of claim 4.

***Allowable Subject Matter***

7. Claims 11-20 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter:

The Examiner notes that the Prior Art of Record (see US 6,577,047) discloses a tension mask assembly for a flat CRT comprising: a tension mask comprising a plurality of strips separated from one another by a predetermined gap, real bridges connecting adjacent strips to define slots, and first and second dummy bridges extending from adjacent strips toward each slot therebetween, said tension mask being installed to include a top surface of said tension mask facing a panel forming a screen and being separated from said panel by a predetermined gap; an etched depth at each one of the upper end surfaces of the first and second dummy bridges being substantially the same as an etched depth at each one of the lower end surfaces of said first and second dummy bridges, and a portion without the dummy bridges of each of the slots including a third etching boundary being formed at an end of the first strip near to the center of the tension

mask and a fourth etching boundary formed at an end of the second strip near to the periphery of said tension mask, said third and fourth etching boundaries being substantially the same; and a first unit supporting and applying tension to said tension mask.

Regarding claim 11, the references of the Prior Art of Record fail to teach or suggest the combination of the limitations as set forth in claim 11, and specifically comprising the limitation of “a third etching boundary being formed at an end of the first strip near to the center of the tension mask being higher with respect to the screen than a fourth etching boundary formed at an end of the second strip near to the periphery of said tension mask”. By providing a mask having the aforementioned first, second, third and fourth etching boundary, the distribution of black points is uniform through an image so that viewers cannot recognize a trace, improving the definition of the image.

Referring to claims 12-19, claims 12-19 are allowable for the reasons given in claim 11, because of their dependency status from claim 11.

Referring to claim 20, claim 20 is allowable for the reasons given in claim 11.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

***Contact Information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 703-305-5987. The examiner can normally be reached on Monday thru Friday, from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 703-305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7382 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
gc

July 2, 2003

  
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